

Attorney's Docket No. 038190/272375

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re: Hale, et al. Confirmation No.: 6676  
Appl. No.: 09/987,448 Group Art Unit: 2121  
Filed: 11/14/2001 Examiner: Aaron C. Perez-Daple  
For: FIBER PLACEMENT AND FIBER STEERING  
SYSTEMS AND CORRESPONDING SOFTWARE  
FOR COMPOSITE STRUCTURES

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APR 29 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Technology Center 2100

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. § 1.97(c)**

Sir:

Attached is a list of documents on form PTO-1449 together with copies of each identified document. Also enclosed is a translation or a concise explanation of each non-English language document.

It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. § 1.97(c), before final Office Action or Allowance, whichever is earlier.

A check for the \$180.00 fee specified in 37 C.F.R. § 1.17(p) is enclosed. The Commissioner is authorized to charge any additional fee, or credit any refund, to our Deposit Account No. 16-0605.

Respectfully submitted,

Keith A. Roberson  
Registration No. 52,171

04/27/2004 FMTEK11 00000042 09987448

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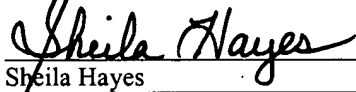
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Page 2

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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:  
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\_\_\_\_\_  
Sheila Hayes

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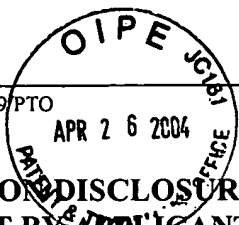


Substitute for form 1449/PTO  
(Revised 04/2003)

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2 of 3



Complete if Known

Application Number	09/987,448
Filing Date	11/14/2001
First Named Inventor	Hale, et al.
Group Art Unit	2121
Examiner Name	Aaron C. Perez-Daple
Attorney Docket Number	038190/272375

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## **OTHER DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
	13	B. Davidson, et al., "An Expert System for the Design and Analysis of Composite Structures", Am. Helicopter Society Conf. And Specialists Mtg. Sep. 21-23, 1993.	
	14	C.M.L. Wu et al., "A knowledge based expert system for laminated composite strut design", Aeronautical Journal, Jan. 1991, pgs. 1-20.	
	15	C.M.L. Wu, "Bolted joints in a laminated composite strut design expert system", Composite Structures 22, 1992, pgs. 63-85.	
	16	D. Sriram et al., "Knowledge-Based Expert Systems in Structural Design", Computers & Structures, Vol. 20, No. 1-3, pgs. 1-9, 1985.	
	17	J. J. Shah et al., "Analysis of design abstraction, representation and inferencing requirements for computer-aided design".	
	18	J.P.H. Webber et al., "An Expert System for Laminated Plate Design Using Composite Materials", Computers & Structures, Vol. 37, No. 6, p. 1051-1-67, 1990.	
	19	D.P. Costin et al., "Optimum Design of a Composite Structure with Manufacturing Constraints", Thin-Walled Structures 17, pgs. 185-202, 1993.	
	20	H. Yoshiura, et al., "Top-Down Construction of 3-D Mechanical Object Shapes from Engineering Drawings", IEEE, Dec. 1984, pgs. 32-40.	
	21	T.C. Woo, "Interfacing Solid Modeling to CAD and CAM: Data Structures and Algorithms for Decomposing a Solid", IEEE, Dec. 1984, pgs. 44-49.	
	22	A.A.G. Requicha et al., "Representation of Geometric Features, Tolerances, and Attributes in Solid Modelers Based on Constructive Geometry", IEEE Journal of Robotics and Automation, Vol. RA-2 No. 3, Sep. '86.	
	23	Y.H. Pao et al., "Memory Driven Feature-Based Design", Interim Report Feb. 1988-Dec. 1992.	
Examiner Signature			Date Considered

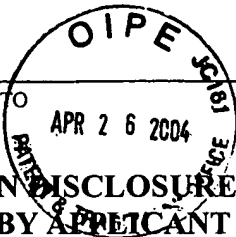
\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet 32 of 3



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Group Art Unit 2121  
Examiner Name Aaron C. Perez-Daple  
Attorney Docket Number 038190/272377

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**OTHER DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
	24	Chris Waldhart, "Analysis of Tow-Placed, Variable-Stiffness Laminates," Mater's Thesis, Virginia Polytechnic Institute, June 5, 1996, pgs. 1-35.	
	25	Brian Tatting and Zafer Gurdal, "Design and Manufacture of Tow-placed Variable Stiffness Composite Laminates with Manufacturing Considerations," 13 <sup>th</sup> US National Congress of Applied Mechanics, June 25, 1998.	
	26	Patrick Morelle and R. Radovic, "CAD Based Optimization of Composite Structures," Proceedings of Sixth Int. Conference on OPT, March 16-18, 1999, pgs. 311-320.	
	27	A.L. Velocci, "R&D Unit Pressed to Save \$1 Billion," Aviation Week and Space Technology, May 11, 1998, pp. 75-76	
	28	E.H. Phillips, "Premier 1 Readied for First Flight," Aviation Week and Space Technology, August 31, 1998, p. 39	
	29	R. Flory and E. Bernardon, "Effect of Steering and Conformance Requirements on Automated Material Deposition Equipment," Charles Stark Draper Laboratory, Inc. technical capability document	

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Signature

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